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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,714	12/12/2003	James R. Cole	200308963-1	2344

22879 7590 03/11/2005

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EXAMINER

HARRINGTON, ALICIA M

ART UNIT PAPER NUMBER

2873

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/734,714	Applicant(s) COLE ET AL.	
	Examiner Alicia M. Harrington	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 20-22, 26, 31, 32 and 38 is/are rejected.
- 7) ☒ Claim(s) 8-19, 23-25, 27-30 and 33-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1203</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 38 is rejected under 35 U.S.C. 102(b) as being anticipated by Hiroshi (JP 07-281293).

Regarding claim 38, Hiroshi discloses an apparatus for mapping image shapes for a display device, comprising:

an illuminating light source(1),

means for selecting an image aspect ratio or shape (see abstract), and

means for reshaping light exiting from the illuminating light source depending upon the image aspect ratio or shape.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishimae et al (US 6,724,546).

Art Unit: 2873

Regarding claim 1, Nishimae discloses an apparatus for mapping image shapes for a display device, comprising:

an integrating rod (5; see col. 21, lines 10-60);

means for selecting an image aspect ratio or shape (opening/aperture of rod; 5a; see figure 1b);

and means for reshaping light (7) exiting from the integrating rod depending upon the image aspect ratio or shape(the aperture is designed to reshape the light exiting the rod at 5b; see col. 21, lines 60-67 and col. 22, lines 1-10).

Regarding claim 2, Nishimae discloses the apparatus for mapping image shapes for a display device of claim 1, wherein the integrating rod (5) has a fully open entrance (see figure 1b).

5. Claims 1,3-5 are rejected under 35 U.S.C. 102(e) as being anticipated by De Vaan et al (US 6,773,116).

Regarding claim 1, De Vaan discloses an apparatus for mapping image shapes for a display device, comprising:

an integrating rod (13; see col. 3, lines 21-61);

means for selecting an image aspect ratio or shape (opening/aperture of rod; see figure 2- col. 3, lines 62-67); and means for reshaping light (exiting aperture; see figure 3) exiting from the integrating rod depending upon the image aspect ratio or shape(the aperture is designed to reshape the light exiting the rod at ; see col. 4, lines 1-21).

Regarding claim 3, De Vann discloses the apparatus for mapping image shapes for a display device of claim 1, wherein the integrating rod has a partially open entrance (see figure 2).

Art Unit: 2873

Regarding claim 4, De Vann discloses the apparatus for mapping image shapes for a display device of claim 3, wherein the integrating rod has an exit and the partially open entrance has a reflective surface facing the exit (see figures 2 and 3; 39; see col. 4, lines 45-50).

Regarding claim 5, De Vann discloses the apparatus for mapping image shapes for a display device of claim 3, wherein the integrating rod has an exit and the partially open entrance has a partially reflective surface facing the exit (see figure 2 and 3; 39; see col. 4, lines 45-50).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 6, 7, 20, 21, 22, 26, 31, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyata et al (2002/0036833) in view Hiroshi (JP 07-281293).

Regarding claims 1, 6 and 7, Miyata discloses an apparatus for mapping image shapes for a display device (projection unit) comprising:

an integrating rod (3);

and

means for reshaping light exiting (5) from the integrating rod depending upon the image aspect ratio or shape (see sections 24-26 and 32-33). However, Miyata fails to specifically disclose means for selecting an image aspect ratio or shape.

In the same field of endeavor, Hiroshi teaches a projection unit where the aperture (5) for reshaping light from the illumination system depending upon the image aspect ratio includes a means for selecting an image aspect ratio or shape (image processor automatically selects; see abstract). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the purpose of increasing the usability of the projection system so that images with different aspect ratios (wide screen or full screen) can be used with the projection system with clarity.

Regarding claims 20-21 and 31-32, Miyata discloses a display device, comprising:

a light source 11 and 12);

a light modulator (DMD at plane S-see section 24),

a projection lens adjacent the light modulator (8;see section 45),

an integrating rod (3) adjacent the light source (11 and 12) and

an exit aperture (5) operatively positioned between the integrating rod (3) and the light

modulator (plane S), the variable exit aperture being configured for mapping

one image of the aspect ratios or shapes onto the light modulator. However, Miyata fails to

specifically disclose a variable exit aperture operatively positioned between the integrating rod

and the light modulator, the variable exit aperture being configured for mapping one of a

plurality of different image aspect ratios or shapes onto the light modulator.

In the same field of endeavor, Hiroshi teaches a projection unit where the aperture (5) for reshaping light from the illumination system depending upon the image aspect ratio includes a variable exit aperture operatively positioned, the variable exit aperture being configured for mapping one of a plurality of different image aspect ratios or shapes onto the projection screen

Art Unit: 2873

(image processor automatically selects an aspect ration and the aperture changes shape; see abstract). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the purpose of increasing the usability of the projection system so that images with different aspect rations (wide screen or full screen) can be used with the projection system with clarity.

Regarding claim 22, Miyata discloses the display device of claim 20, wherein the integrating rod has a fully open entrance (see section 25).

Regarding claim 26, Miyata and Hiroshi disclose the display device of claim 20, wherein the variable exit aperture is provided by one or more members (aperture pieces, see figures).

Allowable Subject Matter

8. Claims 8, 9-19,23,24,25,27-30,33-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 8, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the apparatus for mapping image shapes for a display device of claim 1, wherein the means for selecting is configured to select an image aspect ratio or shape in response to an input provided by a user of the display device.

Art Unit: 2873

Regarding claim 9, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the apparatus for mapping image shapes for a display device of claim 1, wherein the means for reshaping includes a member with a plurality of differently shaped apertures formed there through.

Regarding claim 15, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the apparatus for mapping image shapes for a display device of claim 1, wherein the means for reshaping includes a plurality of members and means for positioning the members adjacent an exit of the integrating rod depending upon the image aspect ratio or shape.

Regarding claim 19, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the apparatus for mapping image shapes for a display device of claim 1 , wherein the means for reshaping includes an anamorphic lens selected and positioned adjacent an exit of the integrating rod depending upon the image aspect ratio or shape.

Regarding claim 23, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C

Art Unit: 2873

102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the display device of claim 20, wherein the integrating rod has a partially open entrance.

Regarding claim 27, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the display device of claim 26, wherein the one or more members include a light reflecting surface facing an exit of the integrating rod.

Regarding claim 28, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the display device of claim 26, wherein the one or more members include a light absorbing surface facing an exit of the integrating rod.

Regarding claim 29, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the display device of claim 26, wherein the variable exit aperture includes means for positioning the one or more members adjacent an exit of the integrating rod depending upon a selected image aspect ratio or shape.

Regarding claim 30, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C.

Art Unit: 2873

102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the display device of claim 20, wherein the variable exit aperture is provided by an anamorphic lens selected and positioned adjacent an exit of the integrating rod depending upon a selected image aspect ratio or shape.

Regarding claim 33, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C.

102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include the display device of claim 21, wherein the means for selecting is configured to select an image aspect ratio or shape in response to an input provided by a user of the display device.

Regarding claim 34, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C.

102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include a method of mapping images for a display device with an integrating rod, comprising: identifying an aspect ratio or shape for an image to be projected by the display device, and positioning an object with a plurality of differently shaped and/or sized apertures adjacent an exit of the integrating rod depending upon the aspect ratio or shape to selectively obstruct portions of the exit of the integrating rod.

Regarding claim 35, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C.

102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include a method of mapping images for a

Art Unit: 2873

display device with an integrating rod, comprising: identifying an aspect ratio or shape for an image to be projected by the display device, and positioning a plurality of objects adjacent an exit of the integrating rod depending upon the aspect ratio or shape to selectively obstruct portions of the exit of the integrating rod.

Regarding claim 36, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include a method for using a display device including a light modulator, comprising: identifying an active area aspect ratio or shape for an image to be projected by the display device; and providing to the display device an input signal that initiates automatic mapping by the display device of the active area aspect ratio or shape onto the light modulator.

Regarding claim 37, prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the dependent claims, in such manner that a rejection under 35 U.S.C 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims, which at least include a method for using a display device including a light modulator, comprising: identifying an active area aspect ratio or shape for an image to be projected by the display device, and repositioning one or more components of the display device to occlude portions of the light modulator depending upon the active area aspect ratio or shape.

Art Unit: 2873

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dahlgren (US 2004/0227909 A1) discloses a projection brightness enhancement using rectilinear apertures.

Dewald (US 6,771,325) discloses a color recapture for display system.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Harrington whose telephone number is 571 272 2330. The examiner can normally be reached on Monday - Thursday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571 272 2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AMH

Alicia M Harrington
Examiner
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